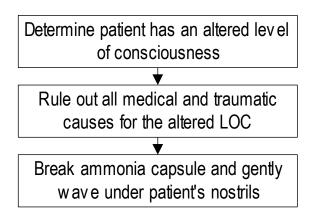
Initial: 5/10/00	
Reviewed/revised:	
Revision:	

# MILWAUKEE COUNTY EMS PRACTICAL SKILL USE OF AMMONIA INHALANTS

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:			Indications:	
To aid in the arousal of a patient with an		Patient who presents with an altered level of consciousness		
altered level of consciousness		after other physical causes have been ruled out		al causes have been ruled out
Advantages:	Disadvantages:	C	omplications:	Contraindications:
Aids in the arousal of a	May further	Irr	ritation of patient's	Patient is alert and oriented
patient with an altered	irritate patient		airway	Medical cause for the altered level of
level of consciousness				consciousness has been established



- Rule out all medical and traumatic causes for altered level of consciousness <u>before</u> using ammonia inhalants.
- DO NOT insert ammonia inhalants into any orifice or place under oxygen mask.

Reviewed/revised: 6/1/05

Revision: 6

### MILWAUKEE COUNTY EMS PRACTICAL SKILL ENDOTRACHEAL

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

### ADMINISTRATION OF MEDICATION

Purpose:		Indications:	
To deliver medication to the alveoli of the lung for rapid		Critically ill patient who	
absorption by the capillarie	<u>s</u>	access is not availab	
Advantages:	Disadvantages:	Complications:	Contraindications:
Delivers medications rapidly to the circulatory system for distribution throughout the body Can be done without IV access	ET must be in place Epinephrine and atropine dosages must be doubled Some of medication will adhere to the walls of the ET tube Not all medication may be administered via ETT Must stop CPR and ventilation to administer	Potential damage to lung tissue by the medication	Medication not approved for ET administration

Ascertain allergy history of patient

Intubate patient orally or nasally

Attach right angle swivel connector with medication port to top of ET tube if desired

Ventilate patient

Confirm dosage, type, and route of administration of medication

Prepare medication for administration

Using sterile technique, draw up 10 cc normal saline into the 20 cc syringe

Stop ventilation and chest compressions if in progress

Open medication port on swivel connector or disconnect bag-valve device

Inject medication into ET tube:

If volume of medication is < 5 cc follow with a 5 cc flush of normal saline; If volume of medication is  $\geq 5$  cc, no flush is necessary

Close medication port or reconnect bag-valve device and slowly compress bagvalve device (over a 2 second period) 5 times, then continue to ventilate

Dispose of contaminated material in appropriate receptacle

- Medications approved for ET administration:
  - Naloxone, atropine, epinephrine, lidocaine.

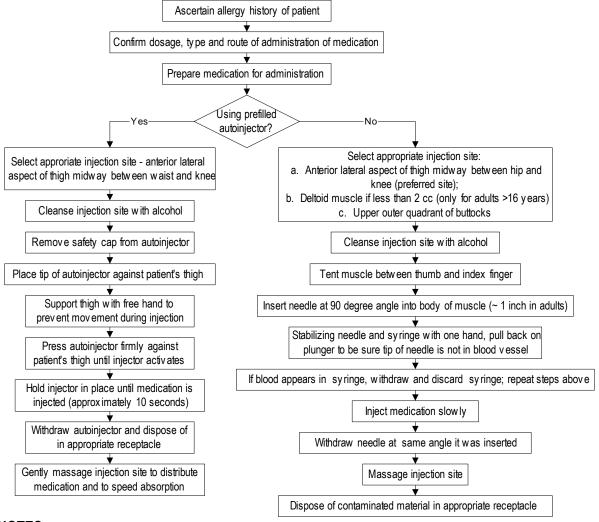
Reviewed/revised: 2/17/10 Revision: 4

### MILWAUKEE COUNTY EMS PRACTICAL SKILL INTRAMUSCULAR

Approved by: Ronald Pirrallo, MD, MHSA Signature:
Page 1 of 1

### **ADMINISTRATION OF MEDICATIONS**

Purpose:		Indications:		
To deliver medication to the muscle tissue for		For a pat	For a patient who needs medication that may be	
absorption by blood vessels		adminis	stered via intramuscu	ılar route
Advantages:	Disadvantages:		Complications:	Contraindications:
Delivers medication slowly to the	Pain at injection site		Infection	Infection in area of
circulatory system for distribution	Only small volumes	`	Accidental IV	injection
throughout the body	cc) should be given by		injection if tip of	
Effects sustained for a period of	this route		needle is in vein	
time	Cannot give tissue-irritating			
Does not require IV access	medication by this	s route		



- The deltoid muscle should not be used as an injection site for patients less than 16 years old.
- No more than 2 cc of medication should be injected via intramuscular route.
- Absorption may be delayed in poor perfusion state. For an anaphylactic patient, consider IV/IO route if patient is in shock and does not rapidly improve with IM epinephrine.

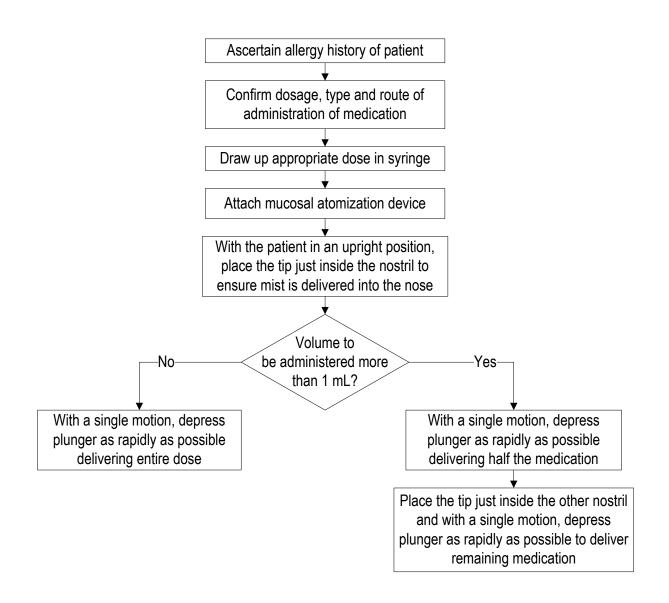
Initial: 2/17/10
Reviewed/revised:
Revision:

### MILWAUKEE COUNTY EMS PRACTICAL SKILL INTRANASAL

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

### ADMINISTRATION OF MEDICATIONS

Purpose:		Indications:		
To deliver a dose of intranasal medication for		For a patient who needs medication that may be administered via intranasal		be administered via intranasal
absorption		route		
Advantages:	Disadvantages:		Complications:	Contraindications:
Intranasal route is needleless	Variable absorption		Nasal congestion	Uncooperative patient
	Exposure to body fluids		Nosebleed	Nosebleed
	Limited dosing – only ½ to 1 mL / nostril			Extreme nasal congestion



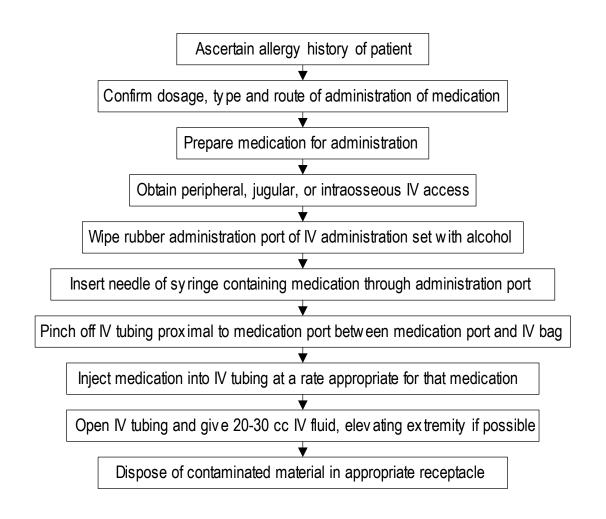
Reviewed/revised: 5/10/00

Revision: 2

# MILWAUKEE COUNTY EMS PRACTICAL SKILL INTRAVENOUS BOLUS OF MEDICATION

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

Purpose:		Indications:	
To deliver medication directly into the blood		Patients with IV access who n	eed medication
stream for rapid distribution to	the rest of the body	administration	
Advantages:	Disadvantages:	Complications:	Contraindications:
Delivers medication rapidly to	Must have IV	Irritation to the vein by medication	Infiltration of IV line
the circulatory system for	access	injected	Injury to the venous
distribution throughout the		Extravasation of medication into	system proximal to
body		subQ tissue if IV infiltrates	the injection site



Reviewed/revised: 2/14/01

Revision: 3

### MILWAUKEE COUNTY EMS PRACTICAL SKILL INTRAVENOUS DRIP

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

### ADMINISTRATION OF MEDICATION

Purpose:		Indications:			
To maintain therapeutic blood levels of a medication		Patie	Patients with IV access who need to maintain		
over a period of time		the	rapeutic blood levels of a	a medication	
Advantages:	Disadvantages:		Complications:	Contraindications:	
Delivers medications constantly and continuously to the circulatory system for distribution throughout the body Maintains a relatively constant blood level of medication	Must have IV acces Line must be monit to assure constar rate of administra	ored nt	Vein irritation by medication injected Extravasation of medication if IV infiltrates	Infiltrated IV line Injury to the venous system proximal to the injection site	

Ascertain allergy history of patient

Confirm dosage, type and route of administration of medication

Obtain peripheral, jugular, or intraosseous IV access

Prepare medication for administration

Cleanse medication port of end of original IV line with alcohol

Insert needle from medication bag administration set through medication port of original IV line and tape in place

Turn off IV line, open flow regulator on administration line containing medication and adjust to appropriate flow rate

Label IV bag containing medication with name of medication, amount added to IV bag and time started

Maintain careful observation of flow rate of medication line for signs of infiltration

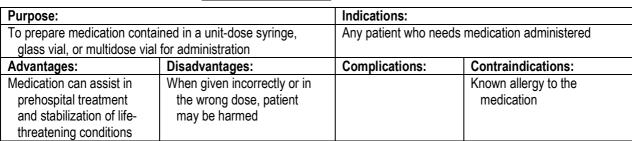
Dispose of contaminated material in appropriate receptacle

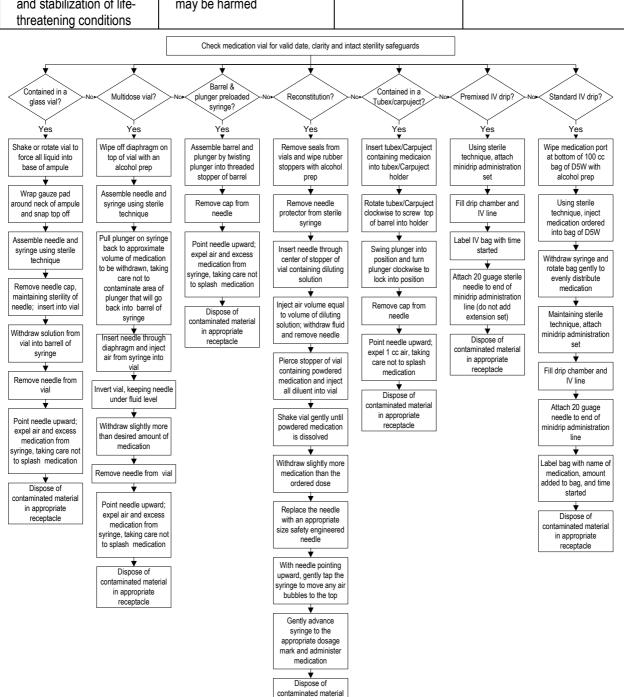
- Medications approved for IV drip:
  - o Amiodarone, dopamine, lidocaine, sodium bicarbonate.

Initial: 9/92
Reviewed/revised: 2/16/11
Revision: 3

## MILWAUKEE COUNTY EMS PRACTICAL SKILL MEDICATION PREPARATION FOR ADMINISTRATION

Approved by: Ronald Pirrallo, MD, MHSA	
Signature:	
Page 1 of 1	
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in appropriate

Reviewed/revised: 5/21/08

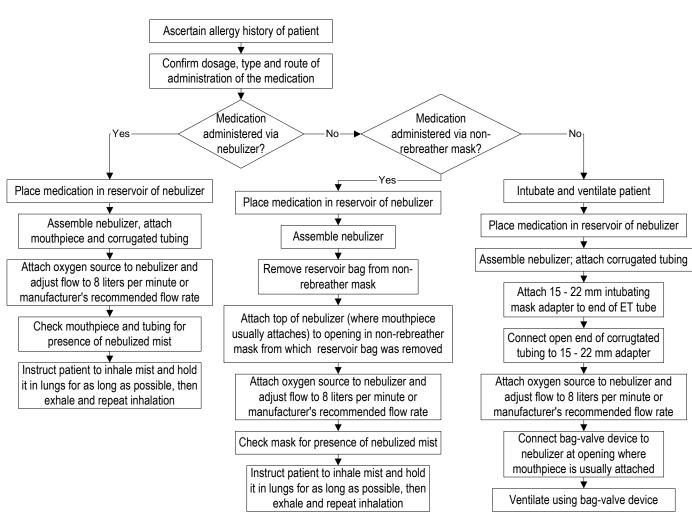
Revision: 5

## MILWAUKEE COUNTY EMS PRACTICAL SKILL NEBULIZED ADMINISTRATION

Approved by: Ronald Pirrallo, MD, MHSA Signature:
Page 1 of 1

### **OF MEDICATION**

Purpose:		Indications:		
To aerosolize a medica	To aerosolize a medication and deliver it into the		Patients experiencing bronchospasm	
pulmonary system for	r absorption by the capillaries			
Advantages:	Disadvantages:		Complications:	Contraindications:
Delivers medications rapidly to the circulatory system in the lungs Does not require IV access	Patients in severe distress may rable to follow directions or inhat enough tidal volume to receive sufficient medication to treat the Very few medications can be given this way	le a high eir condition	Tachyarrhythmia Ventricular ectopic beats	None

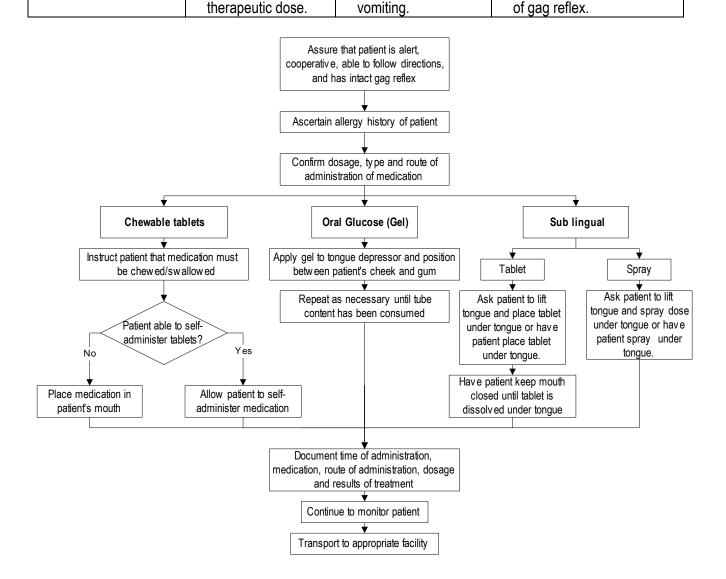


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# MILWAUKEE COUNTY EMS PRACTICAL SKILL ORAL ADMINISTRATION OF MEDICATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

#### Indications: Purpose: To administer medication through the digestive Patient who is alert, cooperative, and is able to protect own airway and swallow the medication. **Complications: Contraindications:** Advantages: Disadvantages: Can be done without IV Patient may vomit prior Medication may cause Patient uncooperative, unable access. to absorption of the stomach upset and/or to follow directions, or lack



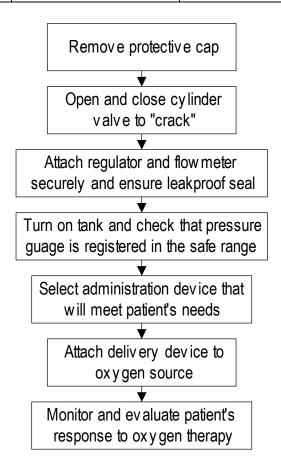
Reviewed/revised: 5/10/00

Revision: 2

### MILWAUKEE COUNTY EMS PRACTICAL SKILL OXYGEN ADMINISTRATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To increase the partial pressure of oxygen in the lungs, providing additional oxygen to the tissues of the body		Patient showing signs of hypoxia		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Increases oxygen availability to the tissue Minimizes effects of hypoxia and anaerobic metabolism on the cells	Oxygen is stored under pressure Increases risk of fire when in use	May suppresses respiratory drive of a patient with COPD	None in prehospital care	



- The nasal cannula delivers 25% 40% oxygen content at 1 6 liters/minute flow.
- The non-rebreather face mask delivers > 90% at 12 liters/minute flow.
- The bag-valve device delivers nearly 100% oxygen content when used with the oxygen reservoir attachment and maximum (15+ liters/min) flow.
- The nebulizer chamber for aerosol medications is run at 8 liters/minute or at manufacturer's recommended flow rate.

Reviewed/revised: 5/21/08

Revision: 4

## MILWAUKEE COUNTY EMS PRACTICAL SKILL RECTAL ADMINISTRATION

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

### **OF MEDICATION**

Purpose:		Indications:		
To provide a route of administration of selected medications in patients with no IV access		Actively seizing patient with no IV access		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Delivers medications when no IV access is available Effects sustained over a period of time	Uncertain absorption rate Uncertainty of medication retention	Trauma to rectal mucosa	Rectal bleeding Diarrhea Any known rectal abnormality	

Ascertain allergy history of patient

Confirm dosage, type and route of administration of medication

Transfer ordered dose of medication into syringe with removable needle

Draw up an additional 1cc of air into syringe

Remove white bag-valve adapter from a 2.5 mm endotracheal tube

Connect syringe to ET tube

Insert ET tube approximately 2 inches into rectum

Invert syringe, making sure air bubble is above liquid

Slowly inject medication into rectum

Clear syringe and tube of medication by forcing air through ET tube

Withdraw ET tube and hold or tape buttocks together for several minutes to prevent expulsion of medication

Dispose of contaminated material in appropriate receptacle

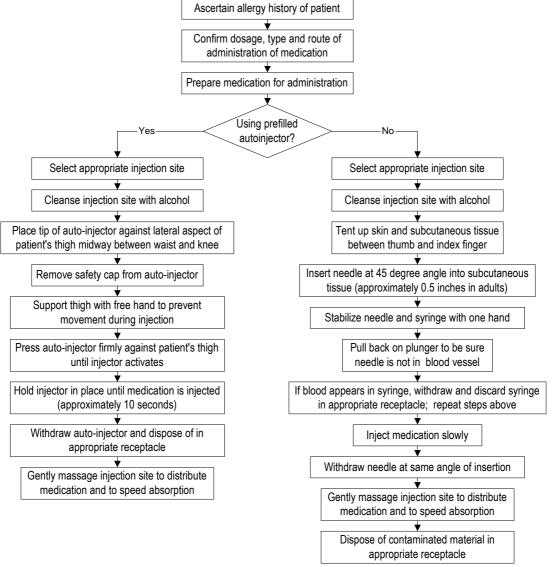
Initial: 9/92 Reviewed/revised: 2/16/11 Revision: 3

### MILWAUKEE COUNTY EMS PRACTICAL SKILL SUBCUTANEOUS

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

### ADMINISTRATION OF MEDICATION

Purpose:		Indications:		
To deliver medication to the subcutaneous tissue for		Anaphylaxis		
absorption by blood vessels		Severe respiratory distress due to bronchospasm		
Advantages:	Disadvantages:		Complications:	Contraindications:
Delivers medication slowly for	Pain		Infection	Infection at injection
distribution throughout the body	Only 0.5 ml of medication		Accidental IV injection	site
Effects sustained over a period of	may be administered subQ		if needle tip is in vein	
time	Cannot give tissue-irritating			
Does not require IV access	medication subQ			



### NOTES:

 Hypotension is a usually a contraindication for subcutaneous injections due to the lack of peripheral circulation to pick up medication.